BYPASS CABLE ASSEMBLY FOR USE IN OPTICAL FIBER HYDROPHONE ARRAY

Abstract

A bypass cable assembly that protects bypass fibers from one end of a hydrophone assembly to the other, avoiding subjecting the fiber to excessive tow-induced drag loading or the loading incurred during handling of the module. The bypass cable assembly comprises an elastic woven fiber cable with a jacketed optical fiber attached to one side of the cable in a sinusoidal pattern. The cable is attached to a woven fiber protection assembly proximate at each end of the hydrophone assembly. Along a central portion of the cable, the cable transitions to be substantially parallel to the module central axis and is disposed alongside the hydrophone assembly. Elongation of the cable causes the period of the sinusoidal pattern to increase without imparting damaging stress to the optical fiber. The elastic woven fiber cable is periodically attached along the central portion of the cable to positioning tape of an internal strength member.